

REMARKS

The Office Action of May 6, 2002, has been carefully considered.

It is noted that claim 20 is rejected under 35 USC 112, first paragraph.

Claim 20 is rejected under 35 USC 112, second paragraph.

Claims 26, 32 and 39 are rejected under 35 USC 112, second paragraph.

Claim 42 is rejected under 35 USC 112, second paragraph.

Claims 20, 29, 34, 35 and 52-57 are rejected under 35 USC 102(b) over the patent to Reese, Jr.

Claims 22-28, 30-33, 36-48 and 60 are rejected under 35 USC 103(a) over Reese, Jr.

Claims 49-51 are rejected under 35 USC 103(a) over Reese, Jr. in view of the patent to Komai, et al.

Claims 58 and 59 are rejected under 35 USC 103(a) over Reese, Jr. in view of the patent to Clark.

In view of the Examiner's rejections of the claims applicants have amended claims 20, 42 and 65.

Applicants respectfully submit that all of the subject matter contained in claim 20 is described in the specification to an extent sufficient to enable one skilled in the art to which it pertains, or to which it is most nearly connected, to make and/or use the invention. Although the term "equalization" as used in claim 20 is believed to have the same meaning as "equilibration" as used in the specification, applicants have amended claim 20 to replace equalization with equilibration.

In view of these considerations it is respectfully submitted that the rejection of claim 20 under 35 USC 112, first paragraph, is overcome and should be withdrawn.

It is respectfully submitted that the claims now on file particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicants have amended the claims to address the instances of indefiniteness cited by the Examiner. Claim 20 has been amended to include "at least one connecting point in the form of an insert". (Support for this can be found in the specification at page 3 lines 21-23). The term "rigidity" has been replaced with --elastic modulus-- (see page 3, lines 21-26 and page 7, lines 16-21 of the specification). Page 7, lines 6-14 and page 9, lines 17-20 of the specification are referred to as support for a passage in claim 20 stating that at least one of the elastic modulus and the coefficient of a thermal expansion change uniformly or in a stepwise manner in the coupling layer and result in an equilibrating of these properties between the plastic material and the insert so as to reduce abrupt changes in at least one of the properties at the interface between the plastic material and the insert. Regarding the "type of fiber" this has been amended to read --kind of fibers, length of fibers--, and page 9, lines 29-32 of the specification are referred to for support.

Concerning the term "uniform" in claim 20, applicants respectfully submit that those skilled in the art would readily understand the meaning of this term when read in connection with the specification. As presently written claim 20 is intended to convey that "stepwise" is different than "uniformly". It is submitted that it is not necessary to provide a standard for those skilled in the art to understand the invention.

Concerning the terms "high tenacity" and "high modulus", these terms, when used in connection with fibers, are well known expressions which mean a type of fiber with certain

properties. Those skilled in the art are aware of these terms and their meaning. These expressions can be found in product manuals about fiber-reinforced plastic.

Regarding line 9 of claim 42, applicants believe the Examiner has misread this line. It does not state "the main forces acting on the insert". Instead it states "a main direction of forces acting on the insert". Thus, it is submitted that there is no problem with insufficient antecedent basis. Regarding the phrase "angular deviation", applicants have amended this portion of the claim to recite "a deviation in an angle of orientation". What is intended by this is to mean a change or difference in the angle of orientation of the fibers. The term "lying" has been removed. However, this term did not have any relevance to the fiber direction as assumed by the Examiner. All this term referred to was the location of the fibers or fiber layers. The phrase "adjacent to plastic material" was intended to mean the fibers closer to the plastic material than to the insert. In other words, the coupling layer has two surfaces, one in contact with the plastic material and the other in contact with the insert. Thus, some of the fibers or fiber layers of the coupling layer are closer to the plastic material while others are closer to the insert. Thus, some of the fibers and fiber layers are or can be considered adjacent or next to the plastic material while others are adjacent or next to the insert.

In view of these considerations it is respectfully submitted that the rejections of claims 20, 26, 32, 39 and 42 under 35 USC 112, second paragraph, are overcome and should be withdrawn.

It is respectfully submitted that the claims now on file differ essentially and in an unobvious, highly advantageous manner from the constructions disclosed in the references. Turning now to the references, and particularly to the patent to Reese, Jr., it can be seen that this patent discloses a multi-layer, unbalanced sandwich panel having a honeycomb core. The

presently claimed invention defines a plastic structural element comprising a plastic material and at least one connecting in the form of an insert that projects from the plastic material so that other parts can be fixed thereto by welding, riveting or screwing, or example. Reese, Jr. discloses a sandwich construction. Reese, Jr. does not disclose an insert that projects from the plastic material, as in the presently claimed invention.

In the presently claimed invention the function of the fiber material within the coupling layer is to balance out the abrupt changes in the e-modulus and/or the coefficient of thermal expansion between the plastic material and the insert. In contrast thereto, the so-called top and bottom laminates beside the honeycomb core of Reese, Jr. have the function of altering the strength and stiffness so that the top laminate is made to restrain greater compressive forces while the bottom laminate is provided with enhanced tensility (see column 2, lines 1-4 of Reese, Jr.). The top and bottom laminates are multiple-ply laminates and the inner plys are not coupling layers in the sense of the presently claimed invention. In fact they are structural and functional parts of the laminate itself.

In view of these considerations it is respectfully submitted that the rejection of claims 20, 29, 34, 35 and 52-57 and 65 under 35 USC 102(b) and the rejection of claims 22-28, 30-33 and 36-48 and 60 under 35 USC 103(a) over the above-discussed reference are overcome and should be withdrawn.

The patent to Komai, et al. discloses a thermal plastic resin coated aluminum alloy sheet for use in producing canned stock. The Examiner combined the teachings of this reference with Reese, Jr. in determining that claims 49-51 would be unpatentable over such a combination. It is respectfully submitted that Komai, et al. has absolutely nothing to do with a plastic structural element as dealt with in the presently claimed invention and this would provide no suggestions for

modifying Reese, Jr. to arrive at the presently claimed invention. However, even if combinable the combination of references does not teach or suggest a plastic structural part comprised of a plastic material and an insert embedded in the plastic material so that a portion of the insert projects from the plastic material, as well as a coupling layer arranged to join the insert to the plastic material, which coupling layer is configured so as to reduce abrupt changes in the elastic modulus and the co-efficient of thermal expansion between the insert and the plastic material.

In view of these considerations it is respectfully submitted that the rejection of claims 49-51 under 35 USC 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.


The patent to Clark discloses a structural dimple panel. The Examiner combined the teachings of this reference with Reese, Jr. in determining that claims 58 and 59 would be unpatentable over such a combination. It is respectfully submitted that Clark adds nothing to the teachings of Reese, Jr. which would suggest the invention as discussed above in connection with claim 20. Therefore, it is respectfully submitted that the rejection of claims 58 and 59 under 35 USC 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By 
Klaus P. Stoffel
Reg. No. 31,668
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: August 6, 2002